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STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PATRICIA W. AHO  
COMMISSIONER

**Corinth Pellets, LLC  
Penobscot County  
Corinth, Maine  
A-956-71-F-A (SM)**

**Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #2**

**FINDINGS OF FACT**

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

Corinth Pellets, LLC (Corinth Pellets) was issued Air Emission License A-956-71-C-R on September 18, 2013 permitting the operation of emission sources associated with their wood pellet manufacturing facility. The license was subsequently amended on August 7, 2014 (A-956-71-E-A).

Corinth Pellets has requested an amendment to their license in order to remove their two existing rotary drum dryers and associated burners and replace them with one single burner and rotary drum dryer.

The equipment addressed in this license is located at 74 Hob Road, Corinth, Maine.

**B. Emission Equipment**

The following equipment is being removed from this air emission license:

**Fuel Burning Equipment (being removed)**

<b><u>Equipment</u></b>	<b><u>Maximum Capacity (MMBtu/hr)</u></b>	<b><u>Maximum Firing Rate (ton/hr)</u></b>	<b><u>Fuel Type</u></b>	<b><u>Install. Date</u></b>	<b><u>Stack #</u></b>
Burner #1	20	1.26 <sup>a</sup>	wood	2006	1
Burner #2	20	1.26 <sup>a</sup>	wood	2006	2

<sup>a</sup> Based on firing wood with a moisture content of 12% by weight.

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769  
(207) 764-0477 FAX: (207) 760-3143

**Process Equipment (being removed)**

<u>Equipment</u>	<u>Max Finished Material Process Rate</u>	<u>Pollution Control Equipment</u>	<u>Stack #</u>
Dryer #1	11.1 ODT/hr <sup>b</sup>	Cyclone #1	1
Dryer #2	11.1 ODT/hr <sup>b</sup>	Cyclone #2	2

<sup>b</sup> Based on converting to a moisture content of 0% by weight and referred to as oven-dried tons per hour (ODT/hr)

The following equipment is being added to this air emission license:

**Fuel Burning Equipment (being added)**

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (ton/hr)</u>	<u>Fuel Type</u>	<u>Install. Date</u>	<u>Stack #</u>
Burner #1	45	4.2 <sup>c</sup>	wood/biomass	2015	1

<sup>c</sup> Based on firing wood with a moisture content of 40% by weight.

**Process Equipment (being added)**

<u>Equipment</u>	<u>Max Finished Material Process Rate</u>	<u>Pollution Control Equipment</u>	<u>Stack #</u>
Dryer #1	18.0 ODT/hr <sup>b</sup>	Cyclone & Multiclone	1

<sup>b</sup> Based on converting to a moisture content of 0% by weight and referred to as oven-dried tons per hour (ODT/hr)

C. Application Classification

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 CMR 100 (as amended). The emission increases are determined by subtracting the current licensed annual emissions

preceding the modification from the maximum future licensed annual emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels</u>
PM	46.0	37.5	-8.5	100
PM <sub>10</sub>	46.0	37.5	-8.5	100
SO <sub>2</sub>	0.6	2.1	+1.5	100
NO <sub>x</sub>	6.5	12.8	+6.3	100
CO	75.5	97.5	+22.0	100
VOC	48.0	49.6	+1.6	50

This modification is determined to be a minor modification and has been processed as such. This source will emit less than 10 tpy of any single HAP and less than 25 tpy of all HAP combined. Therefore, this facility will remain an area HAP source.

## II. BEST PRACTICAL TREATMENT (BPT)

### A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

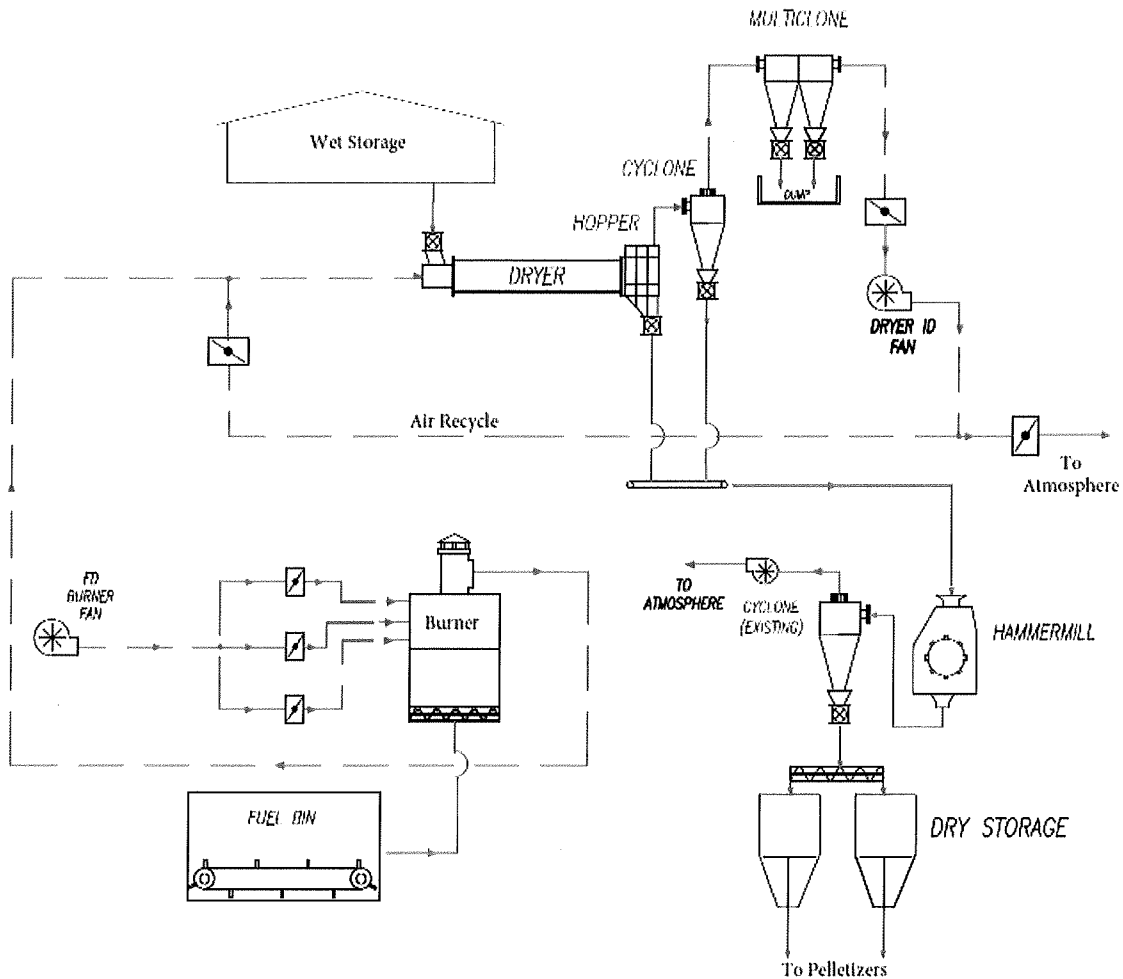
### B. Amendment Description

Corinth Pellets produces wood pellets to be sold as fuel for pellet fired wood stoves. The facility has proposed removing their two existing triple-pass rotary dryers capable of processing 11.1 ODT/hr each with one new single-pass rotary dryer capable of producing 18.0 ODT/hr. Heat will be provided by a new, stand-alone, wood-fired burner with a maximum heat input capacity of 45 MMBtu/hr instead of the previous 20 MMBtu/hr burners associated with the previous dryers.

Wet wood chips, shavings, and sawdust will be received at the facility and introduced into Dryer #1 with hot air supplied by the exhaust gas from Burner #1. The dryer reduces the moisture content of the wood being dried from approximately 50% by weight to 8-12% by weight.

At the end of the dryer, a hopper will knock out the majority of the dried material from the exhaust stream. The exhaust gases will pass through both a cyclone and a bank of multiclones before being vented to atmosphere. Approximately 40-60% of the exhaust gases will be recycled back to the dryer inlet to help improve efficiency and control the temperature and humidity of the dryer system.

The dried wood will be processed by a hammermill and pneumatically conveyed to the dry storage bins prior to being used in the pelletizing process.



Burner #1 is used to provide heat to the dryer and is wood/biomass-fired. The wood/biomass fired in Burner #1 will be "green" or "wet" wood (approximately 50% moisture) which is handled and stored separately from the wood used to produce pellets.

C. Burner #1 and Dryer #1

Corinth Pellets is proposing to install a new single-pass wood pellet dryer line with a maximum hourly throughput rate of 18 ODT/hr. The primary heat source for the dryer will be a burner with a maximum heat input of 45 MMBtu/hr firing wood/biomass.

1. 40 CFR Part 60, Subpart Dc

Burner #1 is not subject to 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, which is applicable to steam generating units greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr for which construction, modification, or reconstruction occurred after June 9, 1989. Steam generating unit is defined in 40 CFR Part 60, Subpart Dc as “a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.”

Burner #1 does not use heat transfer mediums; therefore, 40 CFR Part 60, Subpart Dc is not applicable to this equipment since it is not considered a steam generating unit.

2. 40 CFR Part 63, Subpart JJJJJ

Burner #1 is not subject to 40 CFR Part 63, Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, which is applicable to all new, reconstructed, and existing boilers firing coal, biomass, or oil located at an area source of hazardous air pollutants (HAPs). Corinth Pellets is an area source for HAPs, with the facility’s potential to emit less than 10 tons per year of a single HAP and 25 tons per year combined HAPs. The definition of boiler in 40 CFR Part 63, Subpart JJJJJ states: “Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. Waste heat boilers are excluded from this definition.” Burner #1 does not heat water to recover thermal energy; therefore, 40 CFR Part 63, Subpart JJJJJ is not applicable to this unit since it is not considered a boiler.

### 3. BACT (Best Available Control Technology) Findings

The data obtained from the Reasonably Available Control Technology (RACT)/BACT/ Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC) and the review of licenses from similar sources, along with information on the economic impact, technical feasibility, and environmental impact of various control options was used to determine the available control technologies and corresponding levels of control for the dryer line which includes Burner #1 and Dryer #1.

The following summarizes the BACT findings for Burner #1 and Dryer #1:

#### a. PM/PM<sub>10</sub>/PM<sub>2.5</sub>

The principal components of the particulate matter emissions from the proposed wood dryer line include filterable and condensable organic PM from the wood drying process in Dryer #1 and inorganic fly ash and unburned carbon resulting from incomplete combustion in Burner #1. The organic portion of the PM emissions leave the dryer stack as vapor but condense at normal atmospheric temperature to form liquid particles or mist that can create a visible haze. Quantities emitted are dependent on wood species, dryer temperature, and other factors including season of the year, time between logging and processing, and wood storage time.

Potential PM controls for the dryer line consist of add-on controls, good combustion and operating practices, or a combination of options. The evaluation of add-on controls for this dryer line included baghouses, thermal oxidizers, electrostatic precipitators (ESPs), wet electrostatic precipitators (WESPs), cyclone/multiclone system, and exhaust gas recycle (EGR).

Baghouses collect particulate matter on the surface of filter bags which are periodically cleaned or replaced to maintain an efficiency of greater than 80%. Baghouses can theoretically control PM emissions from wood dryers, but moisture considerations can make them impractical for wood dryer applications. The gas stream's high moisture content in conjunction with the heavy molecular weight organic content of the gas stream cause baghouses to be technically infeasible for this project.

Thermal oxidizers destroy condensable PM by burning the exhaust gas at high temperatures and they can also reduce CO emissions in direct-fired dryer exhausts by oxidizing the CO in the exhaust to CO<sub>2</sub>. Regenerative thermal oxidizers (RTOs) preheat the inlet emission stream with heat recovered from the incineration exhaust gases. The inlet gas stream is passed through preheated ceramic media and an auxiliary gas burner is used to reach temperatures between 1450°F and 1600°F at a specific residence time. The combusted gas exhaust then goes through a cooled ceramic bed where heat is extracted. The estimated annualized cost for an RTO to control roughly 43,000 scfm of exhaust would be

\$2,279,000. This would conservatively result in a cost of \$60,773 per ton of PM controlled. Therefore, the installation of a thermal oxidizer is not economically feasible for this project.

ESPs work by charging particles in the exhaust stream with a high voltage, oppositely charging a collection surface where the particles accumulate, removing the collected dust by a rapping process, and collecting the dust in hoppers. Dry ESPs work well in exhaust streams with minimal organic particulate. Organic particulate tends to adhere to the positively charged collection surface, subsequently requiring additional rapping to dislodge the particulate and reducing control efficiency. Dry ESPs are not recommended for removing moist particles or those likely to adhere to the collection surface. The gas stream's high moisture content in conjunction with the heavy molecular weight organic content of the gas stream cause dry ESPs to be technically infeasible for this project.

WESPs utilize a pre-quench to cool and saturate the gases prior to entering the ESP. WESPs collect only particles and droplets that can be electrostatically charged and consume significant water quantities during operation. The resulting effluent requires treatment and must be discharged to a solids-removing clarifying system prior to final disposal. The effluent may require additional sludge removal, pH adjustment, and/or additional treatment to remove dissolved solids. Corinth Pellets does not currently have the onsite capability to treat the effluent produced from a WESP. The estimated annualized cost for a WESP alone (not including a wastewater treatment system) to control roughly 43,000 scfm of exhaust would be \$1,247,000. This would conservatively result in a cost of \$33,253 per ton of PM controlled. This does not take into account the environmental impacts of wastewater production. Therefore, the installation of a WESP is not economically feasible for this project.

Cyclones, normally an integral part of rotary drum biomass dryers, are a very common particulate control device used in many applications. Cyclones utilize centripetal force to separate particles from gas streams, especially where relatively large particles need to be collected. Cyclones are commonly constructed of sheet metal, have relatively low capital cost, low operating costs, and no moving parts. Multiclones are smaller diameter cyclone units operating in parallel or in series and designed to achieve high efficiency PM collection using the same operational principals as the single cyclone. The use of a cyclone/multiclone system has been determined to be feasible and has been selected as part of the BACT strategy for the proposed dryer system.

Condensable PM emissions can be controlled using a heat/energy system that accommodates exhaust gas recycle (EGR). EGR uses an oversized combustion unit that can accommodate 100 percent recirculation of dryer exhaust gases. The recirculated dryer exhaust is mixed with combustion air and exposed directly to the burner flame. Condensable PM emissions are incinerated in the second stage

of the unit. High temperature exhaust from the combustion unit may either pass through a heat exchanger, which provides heat for dryer inlet air, and then through an add-on device for additional PM control or be directed back through the rotary dryer. EGR controls only a portion of the PM generated by the dryer system and would require additional energy input to overcome the static pressure of the system. It is estimated that approximately 2.0 kW of additional energy input would be required to operate an EGR system. The moisture laden return gas would also result in increased operational complexity and variability in other emissions, including CO and VOC, and is not advisable by the design engineer. The energy and environmental impacts associated with controlling only a portion of the 37.5 tpy potential PM emissions make an EGR system infeasible.

Good combustion practices can reduce products of incomplete combustion, including particulate matter. The use of a new, efficient, clean burning burner and good combustion practices can minimize PM emissions and has been selected as part of the BACT strategy for the proposed dryer system.

BACT for PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions from Burner #1 and Dryer #1 is the use of a cyclone/multiclone system, good combustion and operating practices, an annual wet-ton material throughput limit, and emission limits of 27.0 lb/hr and 1.5 lb/ODT.

The exhaust from Stack #1 is a combination of PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions from both fuel burning and process emissions. The PM/PM<sub>10</sub>/PM<sub>2.5</sub> limits are determined to be more stringent than the combination of the particulate matter limits found in *Fuel Burning Equipment Particulate Emission Standard* 06-096 CMR 103 and *General Process Source Particulate Emission Standard* 06-096 CMR 105.

b. SO<sub>2</sub>

Sulfur dioxide is formed from the combustion of sulfur present in the fuel. Control options for SO<sub>2</sub> include removing the sulfur from the flue gas by adding a caustic scrubbing solution or restricting the sulfur content of the fuel. The wood fuel fired in Burner #1 is inherently a low sulfur fuel, with only trace amounts of sulfur available to combine with oxygen in the combustion process. Additional sulfur controls are not justified for the dryer system.

BACT for SO<sub>2</sub> emissions from Burner #1 and Dryer #1 is the firing of clean wood/biomass materials including wood chips, bark, shavings, and sawdust, an annual wet-ton material throughput limit, and emission limits of 1.13 lb/hr and 0.06 lb/ODT.

c. NO<sub>x</sub>

Nitrogen oxide (NO<sub>x</sub>) is generated from fuel NO<sub>x</sub>, thermal NO<sub>x</sub>, and prompt NO<sub>x</sub>. Oxidation radicals near the combustion flame forms prompt NO<sub>x</sub> in insignificant

amounts. Reducing NO<sub>x</sub> formation from the two other NO<sub>x</sub> generating mechanisms includes firing a low nitrogen content fuel to minimize fuel NO<sub>x</sub> and maintaining combustion temperatures below 3600°F to minimize thermal NO<sub>x</sub>. Potential control technologies for NO<sub>x</sub> include selective catalytic reduction (SCR), selective non-catalytic reduction (SNCR), water/steam injection, and combustion of clean fuels.

SCR controls are primarily used on large industrial and utility boilers. SCR reduces NO<sub>x</sub> emissions through the injection of ammonia in the gas exhaust stream in the presence of a catalyst to produce nitrogen and water. The effectiveness of an SCR system is directly dependent upon the exhaust temperature. The ideal exhaust temperature range for SCR operation is between 550°F and 750°F. With the expected exhaust temperature of 265°F, an SCR system is not technically feasible without the installation of an exhaust re-heat system. The installation of an exhaust re-heat system would require additional fuel input to the system and subsequently increase NO<sub>x</sub> emissions. The energy and environmental impacts associated with controlling a relatively small amount of NO<sub>x</sub> emissions make an SCR system infeasible.

SNCR controls are primarily used on large industrial and utility boilers. SNCR reduces NO<sub>x</sub> to nitrogen and water by reacting the exhaust gas with a reagent such as ammonia or urea, similar to SCR. The chemical reaction takes place at temperatures ranging between 1600°F and 2100°F. The NO<sub>x</sub> reduction efficiency decreases rapidly at temperatures outside this temperature window. Operation below this temperature range results in emissions of unreacted ammonia (a criteria pollutant). Exhaust temperatures from the dryer system will be well below the required temperature range. Injecting the reagent further upstream would mean unreacted ammonia would enter the dryer and directly contact the wood being dried. This would result in ammonia-based salts on the surface of the wood which would alter the product's pH and impede bonding during the pelletizing process. Therefore, the use of SNCR for control of NO<sub>x</sub> is determined to be technically infeasible for this project.

Water/steam injection is the process of injecting water or steam into the combustion chamber to act as a thermal ballast in the combustion process. This lowers the combustion temperature, minimizing the formation of thermal NO<sub>x</sub>. However, introducing additional moisture into a process designed to dry material would be counterproductive to the purpose of the rotary dryer. Therefore, water/steam injections has been determined to be technically infeasible for this project.

BACT for NO<sub>x</sub> emissions from Burner #1 and Dryer #1 is the firing of clean wood/woody biomass materials including wood chips, bark, shavings, and sawdust (having inherently low nitrogen content), an annual wet-ton material throughput limit, and emission limits of 9.18 lb/hr and 0.51 lb/ODT.

d. CO

Carbon monoxide emissions are a result of incomplete combustion, caused by conditions such as insufficient residence time or limited oxygen availability. CO emissions from units with burners are typically minimized by good combustion, although oxidation catalyst systems have been used on larger units. Thermal oxidation is also an option for add-on CO control.

An oxidation catalyst lowers the activation energy needed for CO to react with available oxygen in the exhaust to produce CO<sub>2</sub>. In order to prevent the occurrence of particulate contamination in a biomass system, the oxidation catalyst would need to be located after the particulate matter control technology. However, the process exhaust gas must then typically be preheated prior to contact with the catalyst bed. The cost of the oxidation catalyst, the associated need for a preheat burner, and the biomass plugging potential does not result in an oxidation catalyst as a feasible option for this project.

Thermal oxidation reduces CO emissions in the flue gas with high temperature post combustion. The application of a thermal oxidizer would require additional fuel usage, would result in additional secondary emissions, and would have a large economic impact on the project. There were no CO thermal oxidizer installations on the biomass boilers reviewed in the RBLC database. Therefore, thermal oxidation for CO controls is not a feasible option for this project.

Good combustion efficiency and proper equipment operation and maintenance incorporate various techniques to minimize CO emissions. Proper combustion techniques include maintaining optimum combustion conditions within the system via optimization of residence time, temperature, and mixing. Proper maintenance includes keeping the air to fuel ratio at the manufacturer's specified settings, and having proper air and fuel pressures at the burner.

BACT for CO emissions from the Burner #1 and Dryer #1 is the use of good combustion techniques, proper equipment maintenance, an annual wet-ton material throughput limit, and emission limits of 70.2 lb/hr and 3.9 lb/ODT.

e. VOC

VOCs are generated in the dryer system as a result of incomplete combustion and from the evaporation of the naturally occurring VOCs in the wood. Quantities of VOCs emitted are dependent on wood species and operating parameters such as temperature, residence time, and oxygen present. The options for controlling VOCs from high concentration VOC pyrolysis gas streams include thermal oxidation (RTO or EGR), wet electrostatic precipitators (WESP), and adsorption systems (wet scrubbers).

Thermal oxidizers destroy VOC by burning them at high temperatures reducing them to water and CO<sub>2</sub>. As discussed above for PM, the average annualized cost for an RTO to control 43,000 scfm of exhaust would be about \$2,279,000. The cost of controlling VOCs from this project would be \$45,947/ton and is therefore determined to be economically infeasible for this project. The application of EGR for control of VOC has the same energy and environmental impacts as its use for control of PM and is therefore considered infeasible for this project.

A WESP's primary function is to control particulate matter. However, secondary VOC control may be achieved. Dry ESPs control emissions by charging particles in the exhaust stream with a high voltage, oppositely charging a collection surface where the particles accumulate, removing the collected dust by a rapping process, and collecting the dust in hoppers. WESPs utilize a pre-quench to cool and saturate the gases prior to entering the collection chamber. The pre-quench section of the WESP may scrub and quench some fraction of the highly water-soluble compounds. WESPs consume significant water quantities during operation. The resulting effluent requires treatment and must be discharged to a solids-removing clarifying system prior to final disposal. The effluent may require additional sludge removal, pH adjustment, and/or additional treatment to remove dissolved solids. Corinth Pellets does not currently have the onsite capability to treat the effluent produced from a WESP. As discussed above for PM, the average annualized cost to install a WESP alone (not including the wastewater treatment system) would be roughly \$1,247,000. The cost of controlling VOCs from this project would conservatively be above \$25,000/ton and is therefore determined to be economically infeasible for this project.

BACT for VOC emissions from the Burner #1 and Dryer #1 is the use of good combustion and operation techniques, proper equipment maintenance, an annual wet-ton material throughput limit, an annual VOC limit of 49.9 tpy (as propane) and the following short-term emission limits:

Emission Unit	Hardwood		Softwood (Other Than Pine)		Pine	
	VOC* (lb/ODT)	VOC* (lb/hr)	VOC* (lb/ODT)	VOC* (lb/hr)	VOC* (lb/ODT)	VOC* (lb/hr)
Burner #1 & Dryer #1 (Combined)	1.0	18.0	2.1	37.8	4.4	79.2

\*All VOC emission limits are expressed "as propane".

f. Opacity

Visible emissions from Stack #1 shall not exceed 30% opacity on a six (6)-minute block average except for no more than two (2) six (6)-minute block averages in a continuous three hour period.

g. Additional BACT Findings

Corinth Pellets has asserted, and it has been assumed, that there is a direct linear relationship between the amount of wood dried in Dryer #1 and the amount of fuel fired in Burner #1. Meaning, if Dryer #1 is operating at 80% capacity, Burner #1 will also be firing at 80% capacity. Based on this linear relationship, Corinth Pellets shall demonstrate compliance with the annual tpy numbers for PM, SO<sub>2</sub>, NO<sub>x</sub>, and CO by complying with the process emission limits (lb/ODT) and an annual throughput limit of 100,000 wet tons/year (i.e. 50% moisture) through Dryer #1, based on a 12-month rolling total.

Since compliance with annual emission limits for pollutants created from fuel burning is dependent upon process throughput records, after commencement of commercial operation for the first time, Burner #1 shall not operate for more than 1 hour at a time without also processing a comparable amount of wood in Dryer #1.

The exhaust from Burner #1 and Dryer #1 shall exit through the cyclone and multiclone except during periods of startup, shutdown, or malfunction when the exhaust may be diverted through the associated bypass stack. Use of the bypass stack during startup, shutdown, and malfunctions shall be minimized to the greatest extent practicable, with no period extending longer than 1 hour.

The drying of wood at high temperatures has been shown to create blue, hazy visible emissions. To prevent the emission of this blue haze, Corinth Pellets shall limit the dryer inlet temperature to no more than 800°F when processing hardwood and softwood species other than pine or a pine mix less than 25% by weight. When processing all pine or a pine mix greater than 25% by weight, Corinth Pellets shall not exceed a dryer inlet temperature of 650°F.

4. Periodic Monitoring

Corinth Pellets shall keep records of the wood processed in Dryer #1 on a monthly and 12-month rolling total basis.

Records of process throughput shall be kept on a wet (50% moisture basis) as well as an ODT basis and shall be separated based on species (i.e. the amount of hardwood, pine, and other softwood processed).

Corinth Pellets shall use the following formula to convert wet tons to ODT:

$$\text{ODT} = (\text{Tons of Wood at } M\%) \times [(100-M)/100]$$

where M = the actual moisture content of the wood processed

It is assumed that the green wood fired in Burner #1 has an average moisture content of 50%.

Records shall be maintained documenting startups, shutdowns, and malfunctions. These records shall include dates, times, and duration of any use of the bypass stack to document compliance with the 1 hour limit for each event.

Corinth Pellets shall record in a log the date, time, and duration of any periods when greater than 25% pine is processed in Dryer #1.

Corinth Pellets shall continuously monitor and record the inlet temperature of Dryer #1. "Continuously" is defined as at least three (3) data points in each full operating hour with at least (1) data point in each half-hour period.

Within 180 days of startup of Burner #1 and Dryer #1, Corinth Pellets shall perform stack testing on Stack #1 for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, CO, and VOC to determine compliance with the licensed emission limits (both lb/hr and lb/ODT).

When performing stack testing of VOC for compliance purposes, Burner #1 and Dryer #1 shall be operated under normal operating conditions including any blending of species. The VOC lb/hr and lb/ODT emission limits shall be prorated based on the percentage of each species processed.

For example: If normal operating conditions are represented by processing 60% hardwood and 40% spruce/fir, the VOC emission limits Corinth Pellets must meet would be:

$$[(18.0 \text{ lb/hr}) \times (0.60)] + [(37.8 \text{ lb/hr}) \times (0.40)] = 25.92 \text{ lb/hr}$$

$$[(1.0 \text{ lb/ODT}) \times (0.60)] + [(2.1 \text{ lb/ODT}) \times (0.40)] = 1.44 \text{ lb/ODT}$$

At any point Corinth Pellets may also elect to perform stack testing for the purpose of obtaining data which may be used to propose modifications to the licensed emission limits. If Corinth is performing stack testing for the purposes of revising VOC emission factors for hardwood or softwood other than pine, Dryer #1 shall only process that type of wood (i.e. hardwood or softwood other than pine) for the duration of each test.

Stack tests performed for the purposes of revising VOC emission factors for pine shall be performed using a blend of materials (e.g. pine and hardwood) and the assumed emissions of the non-pine wood subtracted from the total to determine an emission rate for pine.

D. Inventory Calculations

For the purposes of submissions of annual emissions inventory per 06-096 CMR 137, *Emission Statements*, Corinth Pellets shall estimate actual emissions for the system (i.e. Burner #1 and Dryer #1 combined). If the electronic reporting system used to report emissions lists these units separately, Corinth Pellets shall report all emissions for the system under Dryer #1 and report zero emissions from Burner #1.

Inventory emissions for all pollutants except VOC shall be calculated by multiplying the ODT of wood processed through Dryer #1 by the lb/ODT emission limit contained in the air emission license.

Inventory emissions for VOC shall be calculated using the following formula:

$$\begin{aligned} & \left[ (ODT \text{ of Pine Processed}) * \left( \frac{4.4 \text{ lbs of VOC}}{ODT} \right) \right] \\ & + \left[ (ODT \text{ of Other Softwood Processed}) * \left( \frac{2.1 \text{ lbs of VOC}}{ODT} \right) \right] \\ & + \left[ (ODT \text{ of Hardwood Processed}) * \left( \frac{1.0 \text{ lbs of VOC}}{ODT} \right) \right] = \text{Tons of VOC} \end{aligned}$$

Corinth Pellets shall use the following formula to convert wet tons to ODT:

$$ODT = (\text{Tons of Wood at M\%}) \times [(100-M)/100]$$

where M = the actual moisture content of the wood processed

E. Annual Emissions

1. Total Annual Emissions

Corinth Pellets shall be restricted to the following annual emissions, based on a 12 month rolling total. The tons per year limits were calculated based on the processing of 100,000 wet tons of wood at 50% moisture in Dryer #1 and an annual VOC emission limit.

**Total Licensed Annual Emissions for the Facility**

**Tons/year**

(used to calculate the annual license fee)

	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Burner #1 & Dryer #1	37.5	37.5	37.5	2.1	12.8	97.5	49.9
<b>Total TPY</b>	<b>37.5</b>	<b>37.5</b>	<b>37.5</b>	<b>2.1</b>	<b>12.8</b>	<b>97.5</b>	<b>49.9</b>

Table Notes:

- PM<sub>10</sub>, PM<sub>2.5</sub>, and CO emissions are not included in the calculation of the annual license fee and are listed for informational purposes only.
- PM emissions from process equipment, such as the Screening and Pellet Processing operations, are not included in this table since compliance is determined by opacity rather than numerical emission limits.
- VOC emission limits are expressed as propane.

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO<sub>2</sub>e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Corinth Pellets is below the major source threshold of 100,000 tons of CO<sub>2</sub>e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

### III.AMBIENT AIR QUALITY ANALYSIS

#### A. Overview

A refined modeling analysis was performed to show that emissions from Corinth Pellets, in conjunction with other sources, will not cause or contribute to violations of National Ambient Air Quality Standards (NAAQS) for SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub> or CO or to Class II increments for SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> or NO<sub>2</sub>.

B. Model Inputs

The AERMOD-PRIME refined dispersion model was used to address standards and increments in all areas. The modeling analysis accounted for the potential of building wake and cavity effects on emissions from all modeled stacks that are below their calculated formula GEP stack heights.

All modeling was performed in accordance with all applicable requirements of the Maine Department of Environmental Protection, Bureau of Air Quality (MEDEP-BAQ) and the United States Environmental Protection Agency (USEPA).

A valid five-year hourly off-site meteorological database was used in the AERMOD-PRIME refined modeling analysis. The following parameters and their associated heights were collected at the Georgia-Pacific meteorological monitoring site, located in Old Town, during the five-year period 1991-1995:

**TABLE III-1 : Meteorological Parameters and Collection Heights**

Parameter	Sensor Height(s)
Wind Speed	10 meters, 76 meters
Wind Direction	10 meters, 76 meters
Standard Deviation of Wind Direction (Sigma A)	10 meters, 76 meters
Temperature	3 meters

When possible, surface data collected at the Bangor NWS site were substituted for missing surface data. All other missing data were interpolated or coded as missing, per USEPA guidance. In addition, hourly Bangor NWS data, from the same time period, were used to supplement the primary surface dataset for the required variables that were not explicitly collected at the Georgia-Pacific monitoring site.

Surface meteorological data was combined with concurrent hourly cloud cover and upper-air data obtained from the Caribou National Weather Service (NWS). Missing cloud cover and/or upper-air data values were interpolated or coded as missing, per USEPA guidance.

All necessary representative micrometeorological surface variables for inclusion into AERMET (surface roughness, Bowen ratio and albedo) were calculated using AERSURFACE from procedures recommended by USEPA.

Point-source parameters, used in the modeling for Corinth Pellets are listed in Table III-2.

Facility/Stack	Averaging Periods	SO <sub>2</sub> (g/s)	PM <sub>10</sub> /PM <sub>2.5</sub> (g/s)	NO <sub>x</sub> (g/s)	CO (g/s)	Stack Temp (K)	Stack Velocity (m/s)
<b>MAXIMUM LICENSE ALLOWED</b>							
<b>Corinth Pellets</b>							
• New Dryer Stack - 100% Load	All	0.14	3.41	1.16	9.30	402.59	12.78
• New Dryer Stack - 90% Load	All	0.13	3.03	1.03	8.27	402.59	11.56
• New Dryer Stack - 80% Load	All	0.11	2.65	0.90	7.23	402.59	10.11
<b>2012 BASELINE (PM<sub>2.5</sub> INCREMENT)</b>							
• Dryer Line #1 Stack	All	-	4.25	-	-	350.40	25.40
• Dryer Line #2 Stack	All	-	4.25	-	-	350.40	25.40
<b>1987 BASELINE (NO<sub>2</sub> INCREMENT)</b>							
<b>Corinth Pellets</b>							
• No sources existed in the 1987 baseline year; no baseline credit to be taken.							
<b>1977 BASELINE (SO<sub>2</sub>/PM<sub>10</sub> INCREMENT)</b>							
<b>Corinth Pellets</b>							
• No sources existed in the 1977 baseline year; no baseline credit to be taken.							

### C. Single Source Modeling Impacts

Refined modeling was performed for a total of three operating scenarios that represented a range of operations.

The AERMOD-PRIME model results for Corinth Pellets alone are shown in Table III-4. Maximum predicted impacts that exceed their respective significance level are indicated in boldface type. No further modeling was required for pollutant/terrain combinations that did not exceed their respective significance levels.

**TABLE III-4 : Maximum AERMOD-PRIME Impacts from Corinth Pellets Alone**

Pollutant	Averaging Period	Max Impact ( $\mu\text{g}/\text{m}^3$ )	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Class II Significance Level ( $\mu\text{g}/\text{m}^3$ )	Load Case
SO <sub>2</sub>	1-hour	3.81	499,450	4982,070	88.07	10 <sup>a</sup>	100%
	3-hour	3.90	499,250	4982370	96.43	25	100%
	24-hour	1.62	499,240	4981,950	86.96	5	100%
	Annual	0.06	499,340	4982,450	93.61	1	80%
PM <sub>10</sub>	24-hour	<b>38.94</b>	499,240	4981,950	86.96	5	100%
PM <sub>2.5</sub>	24-hour	<b>23.76</b>	499,220	4981,900	86.06	none <sup>b</sup>	100%
	Annual	<b>0.99</b>	499,620	4981,950	83.59	none <sup>b</sup>	100%
NO <sub>2</sub>	1-hour	<b>31.10</b>	499,450	4982,070	88.07	10 <sup>a</sup>	100%
	Annual	0.45	499,340	4982,450	93.61	1	80%
CO	1-hour	427.62	499,290	4982,330	95.54	2000	90%
	8-hour	189.98	499,410	4982,030	88.00	500	80%

<sup>a</sup> Interim Significant Impact Level (SIL) adopted by Maine

<sup>b</sup> Previous Significant Impact Levels (SIL) remanded by USEPA in 2013

### D. Combined Source Modeling Impacts

For predicted modeled impacts from Corinth Pellets alone that exceeded significance levels, as indicated in boldface type in Table III-5, other sources not explicitly included in the modeling analysis must be accounted for by using representative background concentrations for the area.

Background concentrations, listed in Table III-5, are derived from representative rural background data for use in the Eastern Maine region.

**TABLE III-5 : Background Concentrations**

Pollutant	Averaging Period	Background Concentration ( $\mu\text{g}/\text{m}^3$ )	Date
PM <sub>10</sub>	24-hour	42	1994 <sup>1</sup>
PM <sub>2.5</sub>	24-hour	17	2008-2010 <sup>2</sup>
	Annual	5	
NO <sub>2</sub>	1-hour	43	2009-2012 <sup>3</sup>

<sup>1</sup> Background Site - Baileyville

<sup>2</sup> Greenville Site - Greenville

<sup>3</sup> MicMac Site - Presque Isle

MEDEP examined other nearby sources to determine if any impacts would be significant in or near Corinth Pellets significant impact area. Due to the Corinth Pellets facility location, extent of the predicted significant impact area and other nearby source's emissions, MEDEP has determined that no other sources would be considered for combined source modeling.

For pollutant averaging periods that exceeded significance levels, the maximum modeled impacts from the model predicting the highest concentrations were added with conservative rural background concentrations to demonstrate compliance with NAAQS, as shown in Table III-6.

Maximum predicted impacts were explicitly normalized to the form of their respective NAAQS.

Because all pollutant/averaging period impacts using this method meet NAAQS, no further NAAQS modeling analyses need to be performed.

**TABLE III-6 : Maximum Combined Source Impacts ( $\mu\text{g}/\text{m}^3$ )**

Pollutant	Averaging Period	Max Impact ( $\mu\text{g}/\text{m}^3$ )	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Back-Ground ( $\mu\text{g}/\text{m}^3$ )	Max Total Impact ( $\mu\text{g}/\text{m}^3$ )	NAAQS ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	24-hour	26.68	499,460	4982,020	87.10	42	68.68	150
PM <sub>2.5</sub>	24-hour	10.70	499,510	4982,030	85.66	17	27.70	35
	Annual	0.99	499,620	4981,950	83.59	5	5.99	12
NO <sub>2</sub>	1-hour	21.27	499,470	4982,050	87.46	43	64.27	188

#### E. Secondary Formation of PM<sub>2.5</sub>

Potential emissions of SO<sub>2</sub> and NO<sub>2</sub> for this modification are expected to be less than 40 TPY each. Therefore, according to USEPA guidance, no review of secondary impacts due to PM<sub>2.5</sub> precursor emissions (secondary PM<sub>2.5</sub>) is required.

F. Class II Increment

The AERMOD-PRIME refined model was used to predict maximum Class II increment impacts in all areas.

Results of the Class II increment analysis are shown in Table III-7.

As Corinth Pellets did not exist during the 1977 or 1987 baseline years, their SO<sub>2</sub>, PM<sub>10</sub> and NO<sub>2</sub> emissions are considered totally increment consuming, with no credit to be taken during these baseline years. For the purposes of predicting PM<sub>2.5</sub> increment impacts, Corinth Pellets took credit for PM<sub>2.5</sub> emissions occurred during the 2012 baseline year.

All modeled maximum increment impacts were below all increment standards. Because all predicted increment impacts meet increment standards, no further Class II SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> increment modeling needed to be performed.

**TABLE III-7 : Class II Increment Consumption**

Pollutant	Averaging Period	Max Impact (µg/m <sup>3</sup> )	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Class II Increment (µg/m <sup>3</sup> )
SO <sub>2</sub>	3-hour	<b>3.90</b>	499,250	4982370	96.43	<b>512</b>
	24-hour	<b>1.62</b>	499,240	4981,950	86.96	<b>91</b>
	Annual	<b>0.06</b>	499,340	4982,450	93.61	<b>20</b>
PM <sub>10</sub>	24-hour	<b>26.68</b>	499,460	4982,020	87.10	<b>30</b>
	Annual	<b>1.32</b>	499,340	4982,450	93.61	<b>17</b>
PM <sub>2.5</sub>	24-hour	<b>7.87</b>	499380	4982040	88.24	<b>9</b>
	Annual	<b>1.32</b>	499,340	4982,450	93.61	<b>4</b>
NO <sub>2</sub>	Annual	<b>0.45</b>	499,340	4982,450	93.61	<b>25</b>

Federal regulations and 06-096 CMR140 require that any major new source or major source undergoing a major modification provide additional analyses of impacts that would occur as a direct result of the general, commercial, residential, industrial and mobile-source growth associated with the construction and operation of that source. Since this licensing action represents a minor modification to an existing minor source, no additional analyses were required.

F. Class I Impacts

Since the current licensing action for Corinth Pellets represents a minor modification, it has been determined by MEDEP-BAQ that an assessment of Class I Air Quality Related Values (AQRVs) is not required.

G. Summary

In summary, it has been demonstrated that Corinth Pellets in its proposed configuration will not cause or contribute to a violation of any SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub> or CO NAAQS or to Class II increments for SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> or NO<sub>2</sub>.

**ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-956-71-F-A subject to the conditions found in Air Emission License A-956-71-C-R, in amendments A-956-71-D-T, A-956-71-E-A, and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**All Specific Conditions of Air Emission Licenses A-956-71-C-R and A-956-71-E-A are Deleted and Replaced by the following:**

**(28) Burner #1 and Dryer #1**

A. Burner #1 is licensed to fire wood/biomass materials. [06-096 CMR 115, BACT]

B. Throughput Limits and Production Records

1. Corinth Pellets shall not exceed an annual throughput limit for Dryer #1 of 100,000 wet tons per year (50% moisture) based on a 12-month rolling total basis.
2. Corinth Pellets shall keep records of the wood processed in Dryer #1 to document compliance with the 100,000 wet ton/year throughput limit. Records shall be maintained on a monthly and 12-month rolling total basis.
3. Corinth Pellets shall keep records of the ODT of each wood species processed through Dryer #1 to document compliance with the annual VOC limit below. Records shall be maintained on a monthly and 12-month rolling total basis.

[06-096 CMR 115, BACT]

C. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	PM <sub>2.5</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)
Burner #1 & Dryer #1 (Combined)	27.0	27.0	27.0	1.13	9.18	70.2

Emission Unit	PM (lb/ODT)	PM <sub>10</sub> (lb/ODT)	PM <sub>2.5</sub> (lb/ODT)	SO <sub>2</sub> (lb/ODT)	NO <sub>x</sub> (lb/ODT)	CO (lb/ODT)
Burner #1 & Dryer #1 (Combined)	1.5	1.5	1.5	0.06	0.51	3.9

	Hardwood		Softwood (Other Than Pine)		Pine	
Emission Unit	VOC* (lb/ODT)	VOC* (lb/hr)	VOC* (lb/ODT)	VOC* (lb/hr)	VOC* (lb/ODT)	VOC* (lb/hr)
Burner #1 & Dryer #1 (Combined)	1.0	18.0	2.1	37.8	4.4	79.2

\*Expressed as propane

D. Dryer #1 shall not exceed 12-month rolling total processing rates that cause the following equation to be incorrect. These processing rates shall include all of the wood that passes through Dryer #1 regardless of its end use. The amount of wood processed as well as the type in terms of pine, other softwood, or hardwood shall be determined and recorded on a monthly and 12-month rolling total basis. The 12-month rolling total processing rates shall be determined based on monthly raw material consumption determinations calculated using wood delivery receipts, recorded moisture contents, and weekly raw material inventory records.

#### VOC Equation

$$\begin{aligned}
 & \left[ (ODT \text{ of Pine Processed}) * \left( \frac{4.4 \text{ lbs of VOC}}{ODT} \right) \right] \\
 & + \left[ (ODT \text{ of Other Softwood Processed}) * \left( \frac{2.1 \text{ lbs of VOC}}{ODT} \right) \right] \\
 & + \left[ (ODT \text{ of Hardwood Processed}) * \left( \frac{1.0 \text{ lbs of VOC}}{ODT} \right) \right] \\
 & \leq 49.9 \text{ tons per year of VOC on a 12 month rolling total basis}
 \end{aligned}$$

[06-096 CMR 115, BACT]

- E. Burner #1 shall exhaust through Dryer #1, and Dryer #1 shall exhaust to a cyclone, a multiclone, and exit through Stack #1 except for periods of startup, shutdown, or malfunction. [06-096 CMR 115, BACT]
- F. Startup, Shutdown, and Malfunction
1. During periods of startup, shutdown, or malfunction, the bypass stack may be used for Burner #1 for no more than 1 hour for any event. If the startup, shutdown, or malfunction event lasts longer than 1 hour, Corinth Pellets shall either shut the unit down for at least a one hour period or the opacity limit for Stack #1 shall apply to the visible emissions from the bypass stack.
  2. Records shall be maintained documenting startups, shutdowns, and malfunctions. These records shall include dates, times, duration, cause, method utilized to minimize duration of the event and/or to prevent reoccurrence, and whether the bypass stack was utilized and for how long.  
[06-096 CMR 115, BACT]
- G. Visible emissions from Stack #1 shall not exceed 30% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block average in a continuous 3-hour period. [06-096 CMR 101]
- H. Stack #1 shall be at least 84 feet above ground level. [06-096 CMR 115, BACT]
- I. Dryer Inlet Temperature
1. Corinth Pellets shall not exceed an inlet temperature to Dryer #1 of 800°F when processing hardwood and softwood species other than pine or a pine mix less than 25% by weight. When processing all pine or a pine mix greater than 25% by weight, Corinth Pellets shall not exceed an inlet temperature to Dryer #1 of 650°F.
  2. Corinth Pellets shall continuously monitor and record the inlet temperature of Dryer #1 to demonstrate compliance with the temperature limits listed above. "Continuously" is defined as at least three (3) data points in each full operating hour with at least (1) data point in each half-hour period.
  3. Corinth Pellets shall train each of its lead drying line operators how to monitor and determine whether or not the fraction of pine being processed is above or below 25% by weight. Corinth Pellets shall record in a log the date, time, and duration of any periods when greater than 25% pine is processed.  
[06-096 CMR 115, BACT]
- J. Stack Testing
1. Within 180 days of startup of Burner #1 and Dryer #1, Corinth Pellets shall perform stack tests on Stack #1 for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, CO, and VOC to demonstrate compliance with the licensed emission limits (both lb/hr and lb/ODT)

using EPA stack test methods specified in the table below or other methods approved by the Department.

Pollutant	EPA Test Method
PM	Method 5
PM <sub>10</sub>	Method 201 or 201A and Method 202
PM <sub>2.5</sub>	Methods 201A and 202
NO <sub>x</sub>	Method 7E
CO	Method 10
VOC	Methods 25A

2. When performing stack testing of VOC for compliance purposes, Burner #1 and Dryer #1 shall be operated under normal operating conditions including any blending of species. The VOC lb/hr and lb/ODT emission limits shall be prorated based on the percentage of each species processed.

For example: If normal operating conditions are represented by processing 60% hardwood and 40% spruce/fir, the VOC emission limits Corinth Pellets must meet would be:

$$[(18.0 \text{ lb/hr}) \times (0.60)] + [(37.8 \text{ lb/hr}) \times (0.40)] = 25.92 \text{ lb/hr}$$

$$[(1.0 \text{ lb/ODT}) \times (0.60)] + [(2.1 \text{ lb/ODT}) \times (0.40)] = 1.44 \text{ lb/ODT}$$

3. At any point Corinth Pellets may elect to perform stack testing for the purpose of obtaining data which may be used to propose modifications to the licensed emission limits.

[06-096 CMR 115, BACT]

- (29) Corinth Pellets shall operate the RAF baghouse and Cyclone #3 with its associated fabric filter at all times the Screening/Pellet Processing Operation is operating.  
[06-096 CMR 115, BPT]
- (30) Corinth Pellets shall maintain a log documenting maintenance activities performed on the major equipment located at the facility, including Burner #1, Dryer #1, the RAF baghouse, and all facility cyclones. Corinth Pellets shall record the date and location of all bag failures as well as all routine maintenance performed on this equipment.  
[06-096 CMR 115, BPT]
- (31) Corinth Pellets shall not cause visible emissions (not including water vapor), measured as any opacity totaling twelve minutes or longer in any one hour period, to occur at ground level over any land or surrounding any buildings not owned by Corinth Pellets. Opacity from an unobscured source under this condition shall be determined pursuant to the

Environmental Protection Agency's (EPA's) Method 22 - Visual determination of fugitive emissions from material sources and smoke emissions from flares contained in 40 CFR Part 60, Appendix A. [06-096 CMR 115, BPT]

- (32) Corinth Pellets shall employ and have on-site during daylight operating hours at least one person who is trained and certified in determining visible emissions in accordance with EPA Test Methods 9 and 22. These certified employees shall have the authority, and shall exercise such authority, to shut down any process or activity at the facility that is causing or contributing to excess visible emissions. An employee certified in determining visible emissions shall be on-site at all times the facility is operating. [06-096 CMR 115, BPT]

(33) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.  
[06-096 CMR 101]

(34) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(35) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (as amended), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of either:

- 1) A computer program and accompanying instructions supplied by the Department;  
or
- 2) A written emission statement containing the information required in 06-096 CMR 137.

The emission statement must be submitted as specified by the date in 06-096 CMR 137.

Corinth Pellets, LLC  
Penobscot County  
Corinth, Maine  
A-956-71-F-A (SM)

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Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #2

- (36) Corinth Pellets shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 3 DAY OF December, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cove for  
PATRICIA W. AHO, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-956-71-C-R.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/3/14

Date of application acceptance: 11/3/14

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

